Amendments to the Specification:

Please replace the paragraph starting with "To transmit" beginning on page 2, lines 12-24 and ending on page 3, lines 1-2 with the following amended paragraph:

To perform transparent transmission, the processing was limited to '2R regeneration,'(Reshaping, Regeneration) in which the signal levels of the digital 1s and 0s of the client signal are detected for converting to a specific wavelength of the wavelength-division optical network, and the ~~waveshapes~~ wave shape and signal levels are regenerated. In '3R regeneration,'(Reshaping, Retiming, Regeneration) the clock timing of the digital signal is also regenerated. In the 2R and 3R regenerations, however, the quality of the data content of signals are not monitored, and there are certain problems that cannot be controlled by the quality control schemes that monitor digital signal levels alone. This is because the bit error rate degradation as represented in digital signal levels ~~are~~ is a function not only of optical signal strength, but also of factors such as optical signal-to-noise ratio (OSNR) and reflection. For all practical purposes, however, in optical network systems that provide flexible 'circuit provisioning' and 'service provisioning' using wavelength converters (transponders) that perform only basic 2R or 3R regeneration of digital waveforms, the only thing that can be easily monitored is optical signal strength. Therefore, degradation due to other factors was evaluated.

2